



# 3-Watt MR16 Lamp

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## SUMMARY

Price AUD \$10.00 Complete 3 Watt kit. Shipping cost is extra. Discount on bulk (email us).

I have a range of new LED lighting kits and parts available. I have designed street lights / down lights / pool lights / commercial lighting kits as well.

Keep a lookout as I will be bringing out more LED lighting kits from my design range. Now you can build up your own LED lights, and if you want to learn about LEDs then my new LED kits should do the job! They are ideal for schools and clubs or someone who just wants to change to LED lighting in their home or business.

Whatever the case may be I am available any time to help out, so if you need a kit or LED parts then let me know by email ([eyecatchu@yahoo.com.au](mailto:eyecatchu@yahoo.com.au)) or by Mob: 0408458645.

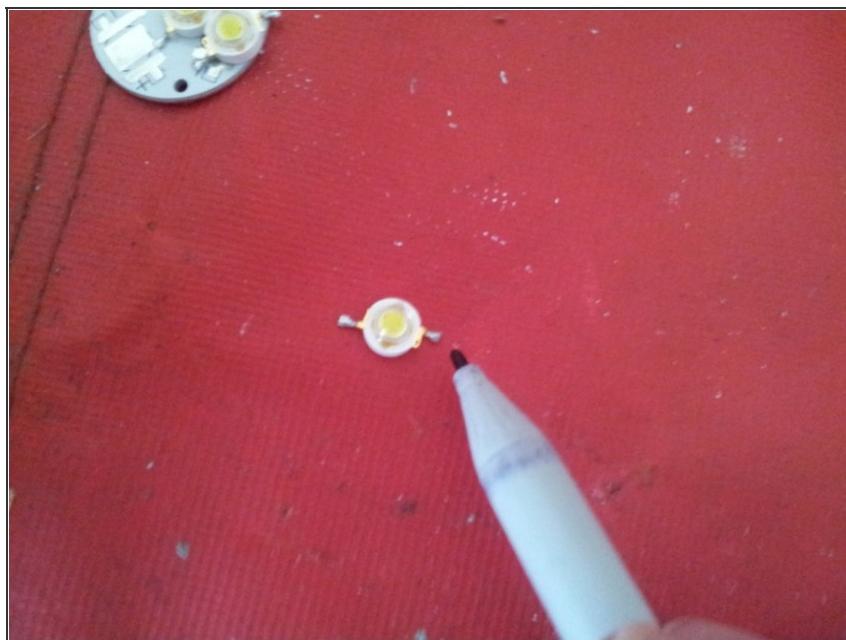
## Step 1 — Check List.



- Here is the complete LED light kit.  
Now before starting this project you need to check all parts as in the photo. Check list as follows: 1 x PCB, 1 x LED, 1 x LED lens, 3 x long screws, 1 x Main heat-sink casing, 1 x Led driver, 1 x Lamp G.3 base.
- NOTE: Also supplied with this kit is some solder and some heat transfer paste.



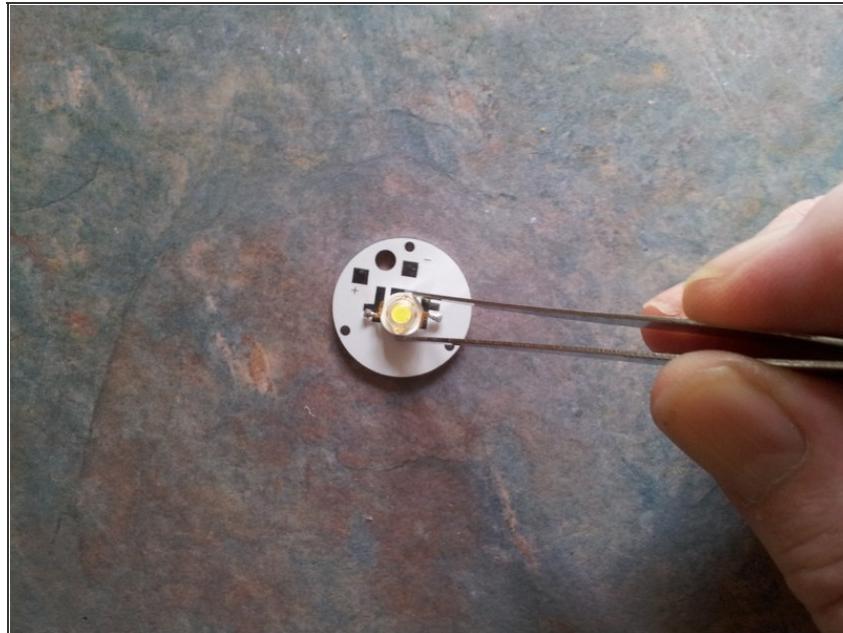
## Step 2 — About LEDs



- **WARNING:** LEDs ARE STATIC-SENSITIVE, SO YOU MUST WEAR AN ANTI-STATIC WRIST STRAP BEFORE HANDLING LEDs.
- You need to make sure that the LED are soldered the correct way on the PCB. If you look closely at the LED you will see that one end has a small hole. This is the positive end (+ ve ).



### Step 3 — Soldering LEDs to PCB



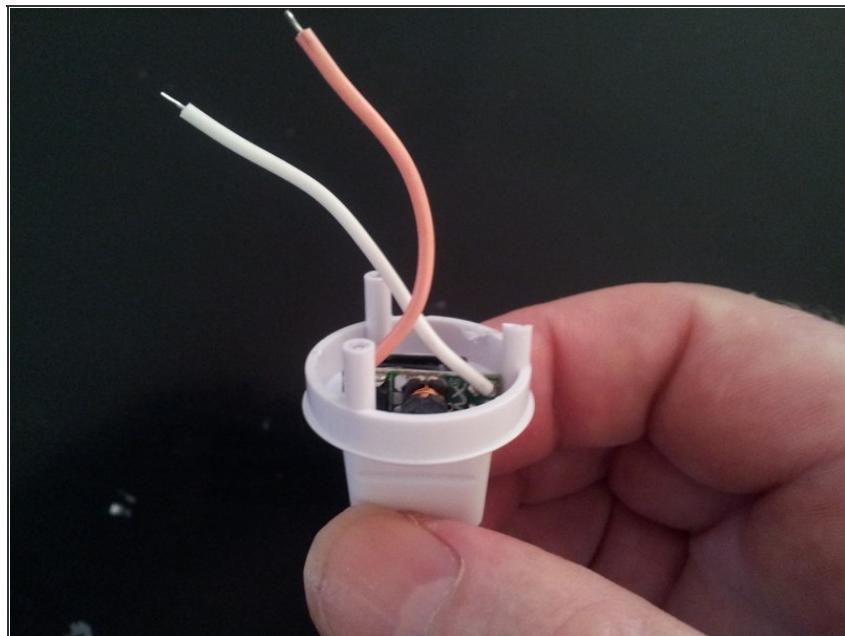
- Now solder the LED to the PCB using your anti-static tweezers to pick up the LEDs.
- WARNING:** Make sure the LED is oriented the correct way before soldering to the PCB. 
- NOTE:** Kit can be supplied with LED mounted on PCB and pre-tested if needed. 

### Step 4



- Here's the finished PCB with the LED soldered.

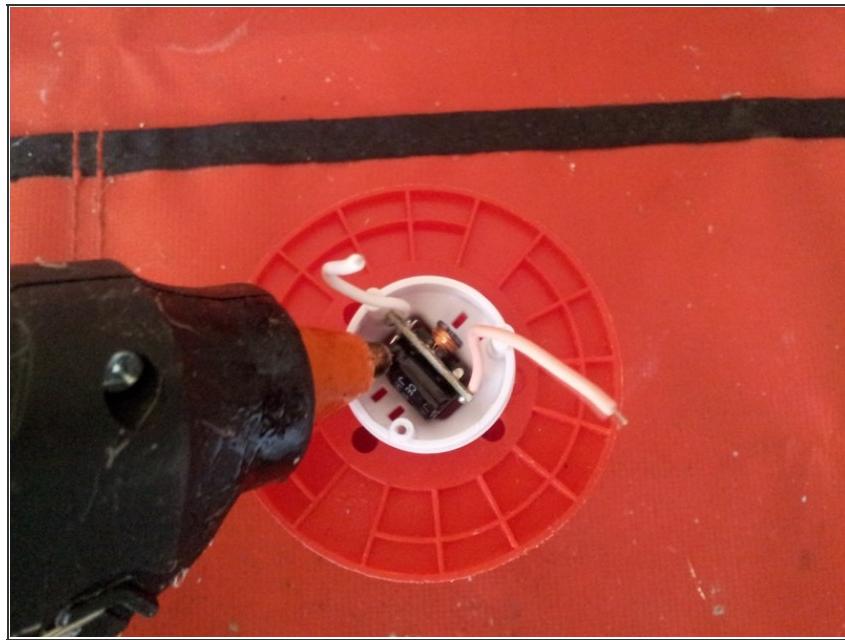
## Step 5 — LED Driver



- The small driver PCB is fitted inside the base casing. Once in, press down the board as far as it will go, so the pins are all the way through the bottom holes.
- NOTE: Do not push down on the driver PCB too hard, otherwise it may break.



## Step 6 — Gluing LED Driver



- Now we need to use a small amount of glue to hold the driver in place so it does move around. I used a hot glue gun for this.
- NOTE: You don't need a lot of glue, just enough to hold the driver in place.
- WARNING: Be very careful as the hot glue can burn you if you get it on your hands!



## Step 7 — Fitting Base to Main casing



- At this stage you need to pull the two wires through the side hole of the heat-sink case, then line up the 3 mount posts on the plastic base with the screw hole on the heat-sink case. To do this, press the plastic base down and at the until it's flush against the bottom of the heat-sink case.
- NOTE: Don't pull the driver's wires too hard through the hole, otherwise they will break off. 

## Step 8 — Heat-Sink Paste



- Now you will need to apply a small amount of the white heat-transfer paste to the PCB. This transfers the heat away from the LED to the heat-sink. Next, fit the board down inside the casing top then pull the wires through the hole of the PCB, but not too hard.
- NOTE: Make sure the PCB is mounted flush with the casing. 

## Step 9 — Attaching PCB and Base to Casing Top



- Screw down the PCB with the screws that are provided with the kit. Use a small Phillips screwdriver. I used a screwdriver with a magnetic tip; this makes it much easier to pick up the screws.
- NOTE: The screws hold down the PCB and the bottom base that has the driver in it.
- DON'T over-tighten the screws, otherwise you will strip the base.



## Step 10 — Soldering Driver Wires to PCB



- Solder the two wires to the PCB. The pink wire is + ve (positive) and the white wire is - ov (negative). Use small pliers to hold the wires when soldering them in place.
- WARNING: Be very careful when soldering the wires that your soldering iron does not touch or get too close to the silicon lens head of the LED; otherwise the LED will be damaged.



### Step 11 — Fitting Lens



- Now line up the LED lens on top of the main casing. Then screw down into place.

## Step 12 — Testing



- If you have reached this stage, then congratulations! You are just about finish this project; all you need to do now is power it up. Connect the lamp to a G5.3 connector, then connect this to a 12 VDC power supply or battery.
- **WARNING:** This LED is super-bright, so make sure the lamp is pointing at a wall!   
**DON'T LOOK AT IT HEAD-ON  
WHEN THE POWER IS ON!**
- **NOTE:** For this lamp to operate reliably you should use a DC supply and not AC. The small LED driver that's inside the lamp base has been designed to work on DC or AC voltage. But, bear in mind that some AC power supplies might not work at all, or may cause flickering. 

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## Step 14 — Finish Project (Trouble shooting)



- If you have no light disconnect power and check the following: 1. LED wrong way around; 2. LED driver wires wrong way around; 3. Power supply must be 12V.



- NOTE: All LEDs that are supplied with all my lighting kits are tested before being packed. All components are CE and ROSH approved.



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- NOTE: I can supply this kit with the LED installed on the PCB and tested. The kit is available in 3 or 5 watts.

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